



Long Term Plan - Maths

	End of KS1	End of Lower KS2	End of Upper KS2
Number and calculations	<ul style="list-style-type: none"> Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward Recognise the place value of each digit in a two-digit number (tens, ones) Compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs Use place value and number facts to solve problems. Recall and use number facts to 100 (multiples of 10) To be able to recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100 Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <ul style="list-style-type: none"> a two-digit number and ones a two-digit number and tens add two two-digit numbers within 100 subtract two two digit numbers without regrouping adding three one-digit numbers 	<ul style="list-style-type: none"> Count in multiples of 6, 7, 9, 25 and 1000 Count backwards through zero to include negative numbers Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) Order and compare numbers beyond 1000 Round any number to the nearest 10, 100 or 1000 Read Roman numerals to 100 (I to C) Add numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. Recall multiplication and division facts for multiplication tables up to 12×12 	<ul style="list-style-type: none"> Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit Identify the value of each digit in numbers given to three decimal places Round any whole number to a required degree of accuracy, including within problem solving Use negative numbers in context, and calculate intervals across zero Multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places Add and subtract whole numbers with more than four digits and decimal numbers using formal written methods. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication Multiply one-digit numbers with up to two decimal places by whole numbers To be able to divide numbers up to 4 digits by a two-digit number using a formal written method and interpret remainders as whole



Long Term Plan - Maths

	<ul style="list-style-type: none"> • Solve simple 1 and 2 step problems with addition and subtraction applying their increasing knowledge of mental and written methods • Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot • Recognise and use the inverse relationship between addition and subtraction • Use estimation and the inverse relationship to check calculations and to solve missing number problems. • Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables • Recognise odd and even numbers • Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot • Solve problems involving multiplication and division 	<ul style="list-style-type: none"> • Use place value, known and derived facts to multiply and divide mentally, (including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers • Multiply two-digit and three-digit numbers by a one-digit number using formal written layout • Solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit <ul style="list-style-type: none"> - Solve integer scaling problems and harder correspondence problems such as n objects are connected to m objects 	<p>numbers, fractions or by rounding as appropriate to the context.</p> <ul style="list-style-type: none"> • Perform mental calculations, including with mixed operations and large numbers • Can calculate mentally, using efficient strategies such as manipulating expressions using commutative and distributive properties to simplify the calculation • Identify common factors, common multiples, square numbers, cubed numbers and prime numbers • Use knowledge of the order of operations to carry out calculations involving the four operations • Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. • Solve multiplication and division multi step problems in context, deciding which operations and methods to use and why.
<p>Fractions</p>	<ul style="list-style-type: none"> • Recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity • Write simple fractions for example, $\frac{1}{2}$ of 6 = 3 	<ul style="list-style-type: none"> • Recognise and show, using diagrams, families of common equivalent fractions • Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit 	<ul style="list-style-type: none"> • Use common factors to simplify fractions • Identify equivalent fractions; use common multiples to express fractions in the same denomination • Compare and order fractions, including fractions > 1



Long Term Plan - Maths

	<ul style="list-style-type: none"> Recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$. 	<p>fractions where the answer is a whole number</p> <ul style="list-style-type: none"> Add and subtract fractions with the same denominator Recognise and write decimal equivalents of any number of tenths or hundredths To recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$ Multiply and divide a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths Round decimals with one decimal place to the nearest whole number Compare numbers with the same number of decimal places up to two decimal places Solve simple measure and money problems involving fractions and decimals to two decimal places. 	<ul style="list-style-type: none"> Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions Multiply simple pairs of proper fractions, writing the answer in its simplest form Divide proper fractions by whole numbers Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Solve problems involving the calculation of percentages and the use of percentages for comparison Calculate a fraction of an amount. To be able to solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts To be able to solve problems involving similar shapes where the scale factor is known or can be found
<p>Measures</p>	<ul style="list-style-type: none"> Choose and use appropriate standard units to estimate length/height in any direction (m/cm); mass (kg/g); temperature ($^{\circ}$C); capacity (litres/ml) 	<ul style="list-style-type: none"> Convert between different units of measure [for example, kilometre to metre; hour to minute] Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres 	<ul style="list-style-type: none"> Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate



Long Term Plan - Maths

	<ul style="list-style-type: none"> • Read scales to measure to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels • Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$ • Recognise and use symbols for pounds (£) and pence (p); • Combine amounts to make a particular value • Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change • Tell and write the time to the nearest 15 minutes, and draw the hands on a clock face to show these times • Tell and write the time to five minutes, and draw the hands on a clock face to show these times 	<ul style="list-style-type: none"> • Find the area of rectilinear shapes by counting squares • Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days. 	<ul style="list-style-type: none"> • Solve problems involving converting units of time, including problems involving the duration of events. • Convert between miles and kilometres • Recognise that shapes with the same areas can have different perimeters and vice versa • Recognise when it is possible to use formulae for area and volume of shapes • Calculate the area of parallelograms and triangles • Calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3].
<p>Geometry</p>	<ul style="list-style-type: none"> • Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line • Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces • Compare and sort common 2-D and 3-D shapes and everyday objects. 	<ul style="list-style-type: none"> • Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes • Identify acute and obtuse angles and compare and order angles up to two right angles by size • Identify lines of symmetry in 2-D shapes presented in different orientations 	<ul style="list-style-type: none"> • Draw 2-D shapes using given dimensions and angles • Recognise, describe and build simple 3-D shapes, including making nets • Compare and classify geometric shapes based on their properties and sizes • Find unknown angles in any triangles, quadrilaterals, and regular polygon • To recognise angles where they meet at a point, are on a straight



Long Term Plan - Maths

	<ul style="list-style-type: none"> Order and arrange combinations of mathematical objects in patterns and sequences Describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). 	<ul style="list-style-type: none"> Describe positions on a 2-D grid as coordinates in the first quadrant Describe movements between positions as translations of a given unit to the left/right and up/down Plot specified points and draw sides to complete a given polygon 	<p>line, or are vertically opposite, and find missing angles</p> <ul style="list-style-type: none"> Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius Describe positions on the full coordinate grid (all four quadrants) Draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
Statistics	<ul style="list-style-type: none"> Interpret and construct simple pictograms, tally charts, block diagrams and simple tables Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity 	<ul style="list-style-type: none"> Interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs. Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs 	<ul style="list-style-type: none"> Interpret and construct pie charts and line graphs and use these to solve problems Calculate and interpret the mean as an average.
Algebra			<ul style="list-style-type: none"> Use simple formulae in words and express missing number problems algebraically Generate and describe linear number sequences Find pairs of numbers that satisfy an equation with two unknowns Find possible values in missing number problems and equations with one or two unknowns.